

An Alternative Ice Protection System for Turbine Engine Inlets, Phase I

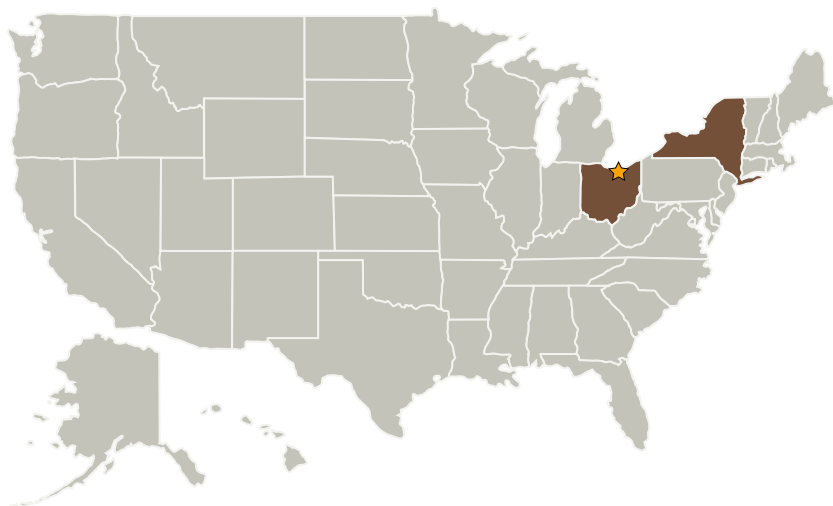
Completed Technology Project (2005 - 2005)



Project Introduction

This proposal presents a dual approach to the development and certification of an alternative system for ice protection of turbine engine inlets. It combines a new generation low power ice protection system with a novel path to certification that is based upon requirements that turbine engines be capable of operation in a hail environment. Eliminated are requirements for high voltages and currents characteristic of all previous impulsive or expulsive deicing systems. It is postulated that if the engine can operate safely in the hail environment as defined by the FARs, then it can be expected to operate safely and economically in the presence of particles shed by the deicer which are demonstrably smaller and less hazardous than hail. Such a system presents a viable alternative to the use of hot air ice protection systems.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★ Glenn Research Center (GRC)	Lead Organization	NASA Center	Cleveland, Ohio
Cox and Company, Inc.	Supporting Organization	Industry	New York, New York



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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Glenn Research Center (GRC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Primary U.S. Work Locations

New York

Ohio

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

Kamel M Al-khalil

Technology Areas

Primary:

- TX01 Propulsion Systems
 - └ TX01.3 Aero Propulsion
 - └ TX01.3.11 Engine Icing